Integration

A major goal of the NCI is to integrate research infrastructures and catalyze cross-disciplinary collaborations to take on large problems in human cancer research and technology development that cannot be addressed by individual investigators. Developing and translating biomedical nanotechnologies for clinical application for cancer and other devastating diseases is one such effort. The Alliance for Nanotechnology in Cancer will integrate the capacities of centers, partnerships, and consortia to increase the pace of technology development and clinical application in the fight against cancer.

NCI Cancer Centers

The NCI invests significant resources into developing and supporting a national cancer research infrastructure. The NCI Cancer Centers Program supports major academic and research institutions throughout the United States to sustain broad-based, coordinated, interdisciplinary programs in cancer research. The Alliance for Nanotechnology in Cancer works with the NCI Cancer Centers to leverage resources for technology development and accelerate translation of new tools for clinical use.

The NCI-designated Cancer Centers:

UAB Comprehensive Cancer Center
University of Alabama at Birmingham
Birmingham, Alabama

Arizona Cancer Center
University of Arizona
Tucson, Arizona

City of Hope National Medical Center
Beckman Research Institute
Duarte, California

Salk Institute Cancer Center
Salk Institute
La Jolla, California

The Burnham Institute
La Jolla, California

Moores Cancer Center
University of California, San Diego
La Jolla, California

Jonsson Comprehensive Cancer Center
University of California Los Angeles
Los Angeles, California

USC/Norris Comprehensive Cancer Center
University of Southern California
Los Angeles, California

Chao Family Comprehensive Cancer Center
University of California at Irvine
Orange, California

Stanford Cancer Center
Stanford University
Stanford, CA

UC Davis Cancer Center
University of California, Davis
Sacramento, California

UCSF Helen Diller Family Comprehensive Cancer Center
San Francisco, California

University of Colorado Cancer Center
University of Colorado at Denver & Health Sciences Center
Aurora, Colorado

Yale Cancer Center
Yale University School of Medicine
New Haven, Connecticut

Lombardi Comprehensive Cancer Center at Georgetown University
Washington, DC

H. Lee Moffitt Cancer Center & Research Institute at the University of South Florida
Tampa, Florida

Winship Cancer Institute at Emory University
Atlanta, Georgia

Cancer Research Center of Hawaii
University of Hawaii at Manoa
Honolulu, Hawaii

University of Chicago Cancer Research Center
Chicago, Illinois

Robert H. Lurie Comprehensive Cancer Center
Northwestern University
Chicago, Illinois

Indiana University Melvin and Bren Simon Cancer Center

Indianapolis, Indiana

Purdue University Center for Cancer Research
West Lafayette, Indiana

Holden Comprehensive Cancer Center
The University of Iowa
Iowa City, Iowa

The Jackson Laboratory Cancer Center
Bar Harbor, Maine

Greenebaum Cancer Center
University of Maryland
Baltimore, Maryland

Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins University
Baltimore, Maryland

Dana-Farber/Harvard Cancer Center
Dana-Farber Cancer Institute
Boston, Massachusetts

David H. Koch Institute for Integrative Cancer Research at MIT
Massachusetts Institute of Technology
Cambridge, Massachusetts

University of Michigan Comprehensive Cancer Center
University of Michigan
Ann Arbor, Michigan

The Barbara Ann Karmanos Cancer Institute
Wayne State University School of Medicine
Detroit, Michigan

Masonic Cancer Center
University of Minnesota
Minneapolis, Minnesota

Mayo Clinic Cancer Center
Mayo Clinic Rochester
Rochester, Minnesota

Siteman Cancer Center
Washington University School of Medicine
St. Louis, Missouri

University of Nebraska Medical Center/ Eppley Cancer Center
Omaha, Nebraska

Norris Cotton Cancer Center
Dartmouth-Hitchcock Medical Center
Lebanon, New Hampshire

The Cancer Institute of New Jersey
Robert Wood Johnson Medical School
New Brunswick, New Jersey

University of New Mexico Cancer Research & Treatment Center
University of New Mexico
Albuquerque, New Mexico

Albert Einstein Cancer Research Center
Bronx, New York

Roswell Park Cancer Institute
Buffalo, New York

Cold Spring Harbor Laboratory
Cold Spring Harbor, New York

NYU Cancer Institute
New York University Medical Center
New York, New York

Memorial Sloan-Kettering Cancer Center
New York, New York

Herbert Irving Comprehensive Cancer Center
College of Physicians & Surgeons
Columbia University
New York, New York

UNC Lineberger Comprehensive Cancer Center
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Duke Comprehensive Cancer Center
Duke University Medical Center
Durham, North Carolina

Wake Forest Comprehensive Cancer Center
Wake Forest University
Winston-Salem, North Carolina

Case Comprehensive Cancer Center
Case Western Reserve University
Cleveland, Ohio

Comprehensive Cancer Center
The Ohio State University
Columbus, Ohio

OHSU Knight Cancer Institute
Oregon Health & Science University
Portland, Oregon

Abramson Cancer Center
University of Pennsylvania
Philadelphia, Pennsylvania

The Wistar Institute
Philadelphia, PA

Fox Chase Cancer Center
Philadelphia, Pennsylvania

Kimmel Cancer Center
Thomas Jefferson University
Philadelphia, Pennsylvania

University of Pittsburgh Cancer Institute
Nancy E. Davidson, M.D.
Pittsburgh, Pennsylvania

Hollings Cancer Center
Charleston, South Carolina

St. Jude Children's Research Hospital
Memphis, Tennessee

Vanderbilt-Ingram Cancer Center
Vanderbilt University
Nashville, Tennessee

Dan L. Duncan Cancer Center
Baylor College of Medicine
Houston, Texas

Cancer Therapy & Research Center
University of Texas Health Science Center at San Antonio
San Antonio, Texas

M.D. Anderson Cancer Center
University of Texas
Houston, Texas

Huntsman Cancer Institute
University of Utah
Salt Lake City, Utah

UVA Cancer Center
University of Virginia, Health Sciences Center
Charlottesville, Virginia

Massey Cancer Center
Virginia Commonwealth University
Richmond, Virginia

Fred Hutchinson/University of Washington
Cancer Consortium
Fred Hutchinson Cancer Research Center
Seattle, Washington

UW Paul P. Carbone Comprehensive Cancer Center
University of Wisconsin
Madison, Wisconsin

NCI Alliance for Nanotechnology in Cancer Programs
The NCI Alliance for Nanotechnology in Cancer operates as a network of eight Centers of Cancer Nanotechnology Excellence and 12 collaborative Cancer Nanotechnology Platform Partnerships, together with Multidisciplinary Research Training and Team Development, and the Nanotechnology Characterization Laboratory.

Centers of Cancer Nanotechnology Excellence:

Carolina Center of Cancer Nanotechnology Excellence
University of North Carolina
Chapel Hill, North Carolina

Center for Cancer Nanotechnology Excellence Focused on Therapy Response
Stanford University
Stanford, Connecticut

Center of Nanotechnology for Treatment, Understanding, and Monitoring of Cancer (NANO-TUMOR)
University of California
San Diego, California

Emory-Georgia Tech Nanotechnology Center for Personalized and Predictive Oncology
Emory University and Georgia Institute of Technology
Atlanta, Georgia

MIT-Harvard Center of Cancer Nanotechnology Excellence

MIT and Harvard University, Massachusetts General Hospital
Cambridge, Massachusetts

Nanomaterials for Cancer Diagnostics and Therapeutics
Northwestern University
Chicago, Illinois

Nanosystems Biology Cancer Center (NSBCC)
California Institute of Technology
Pasadena, California

The Siteman Center of Cancer Nanotechnology Excellence
Washington University
St. Louis, Missouri

Cancer Nanotechnology Platform Partnerships:

Detecting Cancer Early with Targeted Nano-probes for Vascular Signatures
University of California
San Francisco, California

DNA-linked Dendrimer Nanoparticle Systems for Cancer Diagnosis and Treatment
University of Michigan
Ann Arbor, Michigan

Hybrid Nanoparticles in Imaging and Therapy of Prostate Cancer
University of Missouri
Columbia, Missouri

Integrated System for Cancer Biomarker Detection
Massachusetts Institute of Technology
Cambridge, Massachusetts

Metallofullerene Nanoplatform for Imaging and Treating Infiltrative Tumor
Virginia Commonwealth University
Richmond, Virginia

Multifunctional Nanoparticles in Diagnosis and Therapy of Pancreatic Cancer
State University of New York
Buffalo, New York

Nanotechnology Platform for Pediatric Brain Cancer Imaging and Therapy
University of Washington
Seattle, Washington

Nanotechnology Platform for Targeting Solid Tumors
The Sidney Kimmel Cancer Center
Baltimore, Maryland

Nanotherapeutic Strategy for Multidrug Resistant Tumors
Northeastern University
Boston, Massachusetts

Near-Infrared Fluorescence Nanoparticles for Targeted Optical Imaging
The University of Texas M. D. Anderson Cancer Center
Austin, Texas

Novel Cancer Nanotechnology Platforms for Photodynamic Therapy and Imaging
Roswell Park Cancer Institute
Buffalo, New York

Photodestruction of Ovarian Cancer: ErbB3 Targeted Aptamer-Nanoparticle Conjugate
Massachusetts General Hospital
Boston, Massachusetts

Multidisciplinary Research Training and Team Development Fellowship Awards:

Nanoparticle-Bioconjugates as Cancer-Treating Agents
Texas A&M University
College Station, Texas

Nanoscale Mechanisms of Hsp90 and Its Co-chaperones
Yale University
New Haven, Connecticut

Targeted Delivery Via Protein-Carbohydrate Interactions
Liquidia, Inc.
Research Triangle Park, North Carolina

Liposomal Delivery of High LET Emitters to Cell Nuclei
Johns Hopkins University
Baltimore, Maryland

Geldanamycin-Mediated Uptake of Nanoparticle Probes
Purdue University
West Lafayette, Indiana

Nanolabels of Active Proteases for Cancer Detection
University of California
San Francisco, California

Single Walled Carbon Nanotube Based Tumor Vaccines
Memorial Sloan-Kettering Institute for Cancer Research
New York, New York

Short-Interfering RNA-Gold Nanoparticle Bioconjugates: A New Cancer Therapy,
Northwestern University
Evanston, Illinois

Design of Affinity Capture Agents for Akt1 Using in situ Click Chemistry
California Institute of Technology
Pasadena, CA

Targeted Photoactivated Nanopartcicles for the Treatment of Ovarian Cancer
Massachusetts General Hospital
Boston, MA

Nanoprobes and Integrated Nanodevices for Cancer Detection and Treatment
University of Colorado Health Services
Superior, CO

Nanotechnology Characterization Laboratory
Frederick, Maryland

DOE Nanoscale Science Research Centers
The U.S. Department of Energy is currently building Nanoscale Science Research Centers in coordination with five of its national laboratories across the United States to function as research user facilities.

Nanoscale Science Research Centers:

The Center for Functional Nanomaterials
Brookhaven National Laboratory
Upton, New York

The Center for Integrated Nanotechnologies
Sandia National Laboratories and Los Alamos National Laboratory
Los Alamos, New Mexico

The Center for Nanophase Materials Sciences
Oak Ridge National Laboratory
Oak Ridge, Tennessee

The Center for Nanoscale Materials
Argonne National Laboratory
Argonna, Illinois

The Molecular Foundry
Lawrence Berkley National Laboratory
Berkley, California